

MPG 7900.1

BASELINE

EFFECTIVE DATE: January 29, 2003

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# **MARSHALL PROCEDURES AND GUIDELINES**

**AD01**

## **AVIATION ACCIDENT PLAN**

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Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 2 of 19

### DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		1/29/03	Document converted from MSFC MMI 6530.1E to a Directive. Changed directive number to MPG 7900.1

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 3 of 19

## TABLE OF CONTENTS

### Preface

- P.1 Purpose
- P.2 Applicability
- P.3 Authority
- P.4 Applicable Documents
- P.5 References
- P.6 Cancellation

### Document Content

- 1. Definitions
- 2. Responsibilities
- 3. Procedure
- 4. Records
- 5. Flow Diagram

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 4 of 19

## PREFACE

### P.1 PURPOSE

This Marshall Procedures and Guidelines (MPG) establishes responsibilities and procedures for a Marshall Space Flight Center (MSFC), comprehensive Aviation Accident Plan. The purpose of the Aviation Accident Plan is to minimize additional injury and damage due to an accident/incident/malfunction, expedite the notification of responsible persons, and promptly begin an investigation.

### P.2 APPLICABILITY

This MPG applies to all NASA aircraft (Government-owned or leased) assigned or on loan to MSFC. The requirements and procedures delineated in the document content should be initiated in the event an accident/incident/malfunction occurs.

### P.3 AUTHORITY

MPD 1280.1, "Marshall Management Manual"

### P.4 APPLICABLE DOCUMENTS

- a. NPG 8621.1, "NASA Procedures and Guidelines for Mishap Reporting, Investigating, and Recordkeeping"
- b. MPG 1040.3, "MSFC Emergency Plan"
- c. MPG 8715.1, "Marshall Safety, Health, and Environmental (SHE) Program"
- d. MWI 8621.1, "Close Call and Mishap Reporting and Investigation Program"

### P.5 REFERENCES

None

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 5 of 19

## P.6 CANCELLATION

MMI 6530.1E dated April 18, 1989

Original signed by  
Axel Roth for

A. G. Stephenson  
Director

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 6 of 19

## DOCUMENT CONTENT

### 1. DEFINITIONS

1.1 Aircraft Malfunctions. Aircraft malfunctions that have obvious safety implications and may require investigation by an Investigating Body include but are not limited to:

1.1.1 Landing gear malfunction that results in the failure of one or more of the gears to lock in the down position.

1.1.2 Engine malfunction that results in an in-flight engine shut down.

1.1.3 A rapid decompression of the aircraft cabin that was not intentionally pilot induced.

1.1.4 A total loss of hydraulic pressure/fluid during flight.

1.1.5 A total loss of main wheel braking.

1.1.6 Any structural damage or failure.

1.1.7 A total in-flight electrical failure.

1.1.8 Any fire aboard the aircraft.

1.1.9 Inability to control ailerons, rudder, or elevators.

1.2 Appointing Official. The NASA official authorized by the responsible authority to appoint an Investigating Body. The appointing official should have management responsibility over all organizations that are likely to take corrective action as a result of the mishap.

1.3 Close Call. A close call is an unexpected occurrence, event, or sequence of events that does not meet the definition of mishap, but bears reasonable probability to be a mishap in the event of recurrence.

1.4 Costs. The direct costs of repair, retest, delay, replacement, or recovery of NASA materials including hours, material, and contract costs, but excluding indirect costs of cleanup, investigation, and injury.

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 7 of 19

1.5 Incident. A mishap causing occupational injury or illness which does not result in lost workdays, but requires medical treatment beyond first aid or damage to NASA equipment or property equal to or greater than \$1,000 but less than \$25,000.

1.6 Immediately Reportable Mishaps. All mishaps that require immediate notification. Included in this category are Type A, B, and C mishaps. (EXCEPTION: Contractor personnel not located on NASA property do not have to provide immediate notification of Type C injury or illness cases.)

1.7 Investigating Body. For the purpose of this MPG, the Independent Board or Independent Investigator will be referred to as the Investigating Body. Their responsibilities will be to conduct an impartial and detailed examination of the mishap and provide reports as required by MWI 8621.1 "Close Call and Mishap Reporting and Investigation Program" and NPG 8621.1, "NASA Procedures and Guidelines for Mishap Reporting, Investigating, and Recordkeeping"

1.8 Mishap. A mishap is an unexpected occurrence, event, or sequence of events which results in injury or death to employees or visitors, or damage to NASA equipment or property. For mishap reporting purposes, mishaps are classified as follows:

1.8.1 Type A Mishap. A mishap causing death or damage to NASA equipment or property equal to or greater than \$1,000,000.

1.8.2 Type B Mishap. A mishap resulting in permanent disability to one or more persons, or in-patient hospitalization of three or more persons, or damage to NASA equipment or property equal to or greater than \$250,000 but less than \$1,000,000.

1.8.3 Type C Mishap. A mishap causing occupational injury or illness resulting in a lost workday case (any injury or illness which results in day(s) lost beyond the shift in which it occurred) or damage to NASA equipment or property equal to or greater than \$25,000 but less than \$250,000.

1.9 Mission Failure. Any mishap of such serious nature that it prevents accomplishment of a majority of the primary mission objectives.

1.10 Responsible Authority. The management official who is authorized to determine the level of mishap investigation. NPG

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 8 of 19

8621.1, "NASA Procedures and Guidelines for Mishap Reporting, Investigating, and Recordkeeping," provides requirements for the responsible authority.

1.10.1 For Type A, or mission failure mishaps, the responsible authority is normally the NASA HQ Program Manager and the Center Director.

1.10.2 For Type B Mishaps, and close calls with the potential of being a Type A or B Mishap, the responsible authority is normally the Center Director.

1.10.3 For less significant mishaps, the responsible authority is normally the responsible organization. The option to elevate the responsible authority always belongs to the senior official.

1.11 Responsible Organization. A NASA organization that had the mishap or controls the contractor that had the mishap. The Logistics Services Department is the responsible organization for aircraft operations at MSFC.

## **2. RESPONSIBILITIES**

2.1 The following responsibilities apply in the event an accident/incident/malfunction involving a NASA aircraft assigned to MSFC, or on loan to MSFC, occurs:

2.1.1 Contractor for the operation and maintenance of MSFC aircraft will:

2.1.1.1 Take all possible action to prevent injury to personnel and damage or loss of equipment or property.

2.1.1.2 Notify the Manager of Air Operations (AD40) as soon as possible after the accident/incident/malfunction. The notification will include:

- a. A concise statement of the essential background if available, including personnel and aircraft involved.
- b. Action that was taken and is planned to be taken.
- c. Possible corrective action.

2.1.1.3 Notify the NASA Information Support Center at 544-4357, Option 0.



Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 9 of 19

2.1.1.4 Secure the scene against action that could impair investigation, i.e., protect areas and configuration integrity.

2.1.1.5 In the event of an aircraft malfunction with an arrival at an airport, the aircraft will be moved from the runway and secured, if possible, in a hangar. The contractor will place a rope barrier around the aircraft and ensure that no one has access to the problem area until the aircraft is released for corrective maintenance/repair by the MSFC Aviation Safety Officer (ASO) or by the Investigating Body.

2.1.1.6 Ensure protection of all records, logs, data books, etc.

2.1.2 Manager of Air Operations will:

2.1.2.1 Coordinate activities with respect to all aircraft accidents/incidents/malfunctions for which the Center is responsible until relieved by the Investigating Body.

2.1.2.2 Ensure that all possible action is taken to prevent injury to personnel and damage or loss of equipment or property.

2.1.2.3 Ensure that the scene is secured against action that could impair investigation, i.e., protect areas and configuration integrity.

2.1.2.4 Ensure that local, state, and Federal Aviation Administration authorities have been notified when appropriate.

2.1.2.5 Provide authorization to NASA's NISC to begin their notification procedures.

2.1.2.6 Ensure protection of all records, logs, data books, etc.

2.1.2.7 Identify eyewitnesses to the accident/incident/malfunction events.

2.1.2.8 Control access to area of the aircraft until responsibility for investigation is turned over to the Investigating Body.

2.1.2.9 Act as MSFC's point of contact should a decision be made to implement a Headquarters' investigative entity.

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 10 of 19

2.1.2.10 Ensure that copies of releasable material on accidents/incidents/malfunctions are expeditiously sent to the heads of each of the NASA flight operations (by name).

2.1.2.11 Submit a thorough follow-up accident/incident/malfunction report to Headquarters Aviation Management Office as soon as possible.

2.1.3 Manager, Logistics Services Department, will:

2.1.3.1 Ensure that MSFC management (i.e., Safety and Mission Assurance (S&MA), Center Director, Center Operations Directorate, Customer and Employee Relations Directorate) is notified.

2.1.3.2 Report the accident/incident/malfunction and take other necessary action in accordance with MWI 8621.1, "Close Call and Mishap Reporting and Investigation."

2.1.3.3 Notify authorities at the Center to which the aircraft is assigned.

2.1.3.4 Secure all potentially hazardous areas against entry by unauthorized personnel.

2.1.3.5 Provide classification of data, where applicable, and also restrict access to accident-sensitive areas to approved personnel only.

2.1.4 Director, Center Operations Directorate, will:

2.1.4.1 Issue directions as required to all affected organizations to support the Investigating Body.

2.1.4.2 For other than Type A, B, or C mishaps, the responsible organization (Center Operations Directorate) and/or the Director of the MSFC S&MA Office will initiate action to activate an Investigating Body.

2.1.4.3 Provide adequate and properly trained medical personnel in support of the Huntsville International Airport Fire and Rescue Team. Dispatch these personnel to the scene of the accident/incident/malfunction and provide any necessary assistance.

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 11 of 19

2.1.4.4 Supplement the Airport Police, as necessary, with security guards, in immediate support of the fire chief or the MSFC Investigating Body to assist in carrying out assigned duties. Ensure that the immediate area is secure in order to prevent any disturbance of the wreckage and to preserve any and all evidence and documents, unless removal is authorized by the Director, S&MA.

2.1.4.5 Provide photographic services at the site of the accident/incident/malfunction.

2.1.5 Director, S&MA, will:

2.1.5.1 Ensure that the investigation of the accident/incident/malfunction is conducted in accordance with MWI 8621.1, "Close Call and Mishap Reporting and Investigation," and any other applicable safety-related directives.

2.1.5.2 Ensure that evidence and documentation are impounded and safeguarded. The Director, S&MA is authorized to remove evidence, records and documents from the site as necessary.

2.1.5.3 Perform necessary functions of MWI 8621.1, "Close Call and Mishap Reporting and Investigation."

2.1.5.4 If the aircraft is assigned to and operated by a Center other than MSFC, take initial action in accordance with MPG 8715.1 Marshall Safety, Health, and Environmental (SHE) Program until relieved by safety personnel from the Center to which the aircraft is assigned.

2.1.5.5 Retain all mishap records in accordance with MWI 8621.1 "Close Call and Mishap Reporting and Investigating Program."

2.1.5.6 For other than Type A, B, or C mishaps, the responsible organization and/or the Director of the MSFC Safety and Mission Assurance Office will initiate action to activate an Investigating Body.

2.1.5.7 Determine when the Investigating Body report is complete and officially terminate the investigation.

2.1.6 Chief Information Officer (CIO), will:

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 12 of 19

2.1.6.1 Report to the MSFC Investigating Body, and provide communication services, such as cellular phones as required, with other activities.

2.1.7 Manager, Media Relations Department, will:

2.1.7.1 Assign an adequate number of escorts to the accident/incident/malfunction scene to assist reporters and photographers.

2.1.7.2 Coordinate public information and press matters for accidents/incidents/malfunctions. Hold information about the accident/incident/malfunction for response to query. When an accident has caused major damage to a NASA aircraft or when passengers or crew are injured, release basic facts about the accident immediately. Generally, this news release will give such information as the type of aircraft, number of crew and passengers aboard, the departure point and destination, and an initial assessment of damage or injuries. A follow-up release will give names of passengers and crew after the next-of-kin of any injured parties have been notified.

2.1.8 Chief Counsel will:

2.1.8.1 Provide legal advice and assistance to MSFC management and to the Investigating Body, including advice concerning the confidentiality of witness statements and the release of information from the investigation to outside parties.

2.1.8.2 Interface with any outside counsel who become involved with or inquire about the accident/incident/malfunction or the investigation.

2.1.8.3 Review the draft investigation report for legal sufficiency.

2.1.9 Deputy Director will:

2.1.9.1 Act as the appointing official for board investigations at the MSFC level. In the event of a Type A aircraft accident (one that results in a death or disabling injury, damage to equipment or property exceeding \$1,000,000, or destruction of the aircraft), NASA Headquarters will assign the Investigating Body and will request a list of qualified persons who could be assigned to the same. The Deputy Director would act as the point of contact for the requested list.

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 13 of 19

2.1.9.2 When the aircraft is on loan to the Marshall Space Flight Center, ensure that at least one member of the Investigating Body is from the Center that owns the aircraft.

2.2 The following additional responsibilities apply in the event an accident/incident/malfunction involving a NASA aircraft assigned to MSFC or on loan to MSFC, occurs at or in the vicinity of the Huntsville International Airport (30-mile radius). If the accident/incident/malfunction occurs on MSFC, the guidelines in MPG 1040.3, "MSFC Emergency Plan," should also be followed.

2.2.1 General. Personnel receiving the notification of an aircraft accident/incident/malfunction will ensure they request the following information:

2.2.1.1 Location.

2.2.1.2 Type and identification number of the aircraft.

2.2.1.3 Number of personnel and/or type cargo on board.

2.2.1.4 Condition of wreckage.

2.2.1.5 Facilities available for caring for injured, condition of personnel, if taken to hospital, and names, addresses, phone numbers, etc.

2.2.1.6 Any further information which might assist in the recovery operations.

2.2.1.7 Determine which local authorities are handling security.

2.2.1.8 Personnel receiving this information will notify the NISC and the Manager of Air Operations.

2.2.2 Manager, Logistics Services Department, will arrange transportation requirements to the scene of the accident/incident/malfunction.

2.2.3 The MSFC CIO, will ensure that arrangements are completed to provide adequate communication services at the scene of the accident/incident/malfunction.

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 14 of 19

2.2.4 Director, Center Operations Directorate, will:

2.2.4.1 Provide adequate and properly trained medical personnel in support of the community police and fire departments who have jurisdiction over the crash site. Dispatch these personnel to the scene of the accident/incident/malfunction and provide any necessary assistance.

2.2.4.2 Alert the Manager, Protective Services Department to dispatch security guards to the scene of the accident/incident/malfunction, if appropriate, in immediate support of the Investigating Body.

2.3 The following additional responsibilities apply in the event an accident/incident/malfunction involving a NASA aircraft assigned to MSFC or on loan to MSFC, occurs outside the vicinity (30-mile radius) of the Huntsville International Airport and not in the area of responsibility of another Center.

2.3.1 General. Personnel receiving the notification of an aircraft accident/incident/malfunction will ensure they request the following information:

2.3.1.1 Location of mishap and accessibility of site.

2.3.1.2 Type and identification number of the aircraft.

2.3.1.3 Number of personnel and/or type cargo on board.

2.3.1.4 Condition of wreckage.

2.3.1.5 Facilities available for caring for injured, condition of personnel, if taken to hospital, and names, addresses, phone numbers, etc.

2.3.1.6 Any further information which might assist in the recovery operations.

2.3.1.7 Determine which local authorities are handling security and which are responsible for the site.

2.3.1.8 Personnel receiving this information will notify the Manager of Air Operations.

2.3.2 Manager, Protective Services Department, will

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 15 of 19

coordinate security with local authorities at the scene of the accident/ incident/malfunction and render assistance as appropriate.

2.4 The following additional responsibilities apply in the event an accident/incident/malfunction involving a NASA aircraft assigned to MSFC, or on loan to MSFC, occurs within the area of responsibility of another Center.

2.4.1. Determine which local authorities are responsible for the security for the site; which are responsible for the site; which are responsible for investigating the accident/incident/malfunction.

2.4.1.1 Personnel receiving this information shall notify the Manager of Air Operations.

2.4.2 The following MSFC officials are expected to maintain close communication with their counterparts at the investigating Center. They are to provide assistance to their counterparts and also to the MSFC Investigating Body when requested.

2.4.2.1 Manager, Air Operations

2.4.2.2 Manager, Logistics Services Department

2.4.2.3 Director, Center Operations Directorate

2.4.2.4 Director, Safety and Mission Assurance Office

2.4.2.5 CIO

2.4.2.6 Manager, Media Relations Department

2.4.2.7 Chief Counsel

2.5 The Investigating Body chairman will:

2.5.1 Give notice of date and location of all applicable hearings and meetings.

2.5.2 Obtain, in the form of a permanent record (i.e., written and signed statements of witnesses), all relevant facts pertaining to the investigation.

2.5.3 Regulate the course and conduct of the investigation.

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 16 of 19

2.5.4 Determine attendance at a session in which classified evidence or other privileged information is to be introduced.

2.6 All members of the Investigating Body will:

2.6.1 Accept the testimony of all witnesses, which should be verbatim whenever practical; otherwise, a summary of pertinent facts is acceptable.

2.6.2 Advise witnesses before they testify that the purpose of the investigation is to determine all facts relating to the accident/incident/malfunction and that their statements will be held in confidence to the degree permitted by law.

2.6.3 Endeavor to ensure that information pertinent to the accident/incident/malfunction, if furnished under a pledge of confidentiality, will not be used or made available through disclosure for any other purpose, to the extent permitted by law.

2.7 If activated, the Investigating Body will:

2.7.1 Proceed to the scene of the accident/incident/malfunction, establish a command post, coordinate all activities of MSFC personnel, and provide any assistance to local authorities and other rescue efforts.

2.7.2 Maintain a written record of all information, documentation, and evidence relative to a subsequent accident investigation per MWI 8621.1, "Close Call and Mishap Reporting and Investigation."

2.7.3 Take all possible action to prevent injury to personnel and damage or loss of equipment or property.

2.7.4 Obtain and review contractor and NASA records pertaining to records of receipt, inspection, assembly, reliability, quality control, checkout, and any other records pertinent to the investigation.

2.7.5 Obtain and review contractor and NASA procedures associated with the activity taking place at the time the accident/incident/malfunction occurred.

2.7.6 Reconstruct the circumstances under which the



Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 17 of 19

accident/incident/malfunction could have been initiated.

2.7.7 Perform interviews and obtain witness statements as soon as practical after the occurrence of the accident/incident/malfunction.

2.7.8 Review all data that may have a bearing on the accident/incident/malfunction.

### 3. Procedures

3.1 When an Investigating Body is activated, the duties of each member will take precedence over all regular duties.

3.2 Persons other than NASA employees may serve as consultants or advisors to the Investigating Body, but not as members except for specific exceptions for Government employees outside NASA when invited by the MSFC Director.

3.3 If an accident/incident/malfunction involves an aircraft from another Center, at least one member of the Investigating Body shall be from the Center to which that aircraft is assigned.

3.4 All investigations are conducted to determine the cause of an accident/incident/malfunction and to recommend steps to prevent recurrence of the same. The body involved in the investigation will document their findings, determinations, conclusions, recommendations, and the procedural methods used during the investigation.

3.5 It is not an objective of the investigation to obtain evidence for use in any personal disciplinary action against any individual, to determine pecuniary liability toward any individual or to obtain evidence for such purposes, or to put any individual's employment in jeopardy because of the accidental occurrence.

3.6 MSFC will be prepared to support any investigation that may be required. Necessary resources to conduct the investigation - administrative facilities, clerical support, sufficient communications, data access, and security systems will be made available to the Investigating Body. To the extent possible, MSFC will utilize existing facilities, organizations, and procedures for data handling and analysis.

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 18 of 19

3.7 Employees named to the Investigating Body are responsible for being on duty or personally notifying the Investigating Body Chairman of their off-duty status and location in the event they plan to be away during the interval when a significant event is scheduled.

3.8 The Investigating Body shall be comprised, if possible, of at least one member familiar with aviation and/or flight operations. Special advisors may also be selected/assigned to serve on the body or to otherwise assist in the investigation of the accident/incident/malfunction. Coordination of the Body assistants will be through the Center Operations Directorate. The Aviation Safety Officer (AD40) will be a participant (as member or advisor) of each investigation.

#### 4. RECORDS

4.1 Records would include but are not limited to:

4.1.1 Witness, flight crew, Federal Aviation Administration, National Transportation Safety Board, and air traffic controller statements.

4.1.2 Investigating Body generated reports including minority reports.

4.2 All records and reports are maintained by S&MA in accordance with MWI 8621.1.

4.3 The Investigating Body report shall conform to the requirements of MWI 8621.1, "Close Call and Mishap Reporting and Investigation." Investigating Body reports shall be forwarded to the appointing official for review and approval within 60 days of the mishap. Seven copies of the report will be forwarded to the Aircraft Management Office at NASA Headquarters within 75 days of the mishap with a list of the corrective actions including the assigned responsibility. Additional time may be granted by the appointing authority for unusual circumstances. In such cases, the report shall be forwarded to the Aircraft Management Office within 15 days after receipt by the appointing official.

4.3.1 The reports shall include a factual section, an analysis section, and a findings and recommendations section. The purpose of the investigation and the associated report is to determine what happened and what caused the accident/incident/

Marshall Procedures and Guidelines AD01		
Aviation Accident Plan	MPG 7900.1	Revision: Baseline
	Date: January 29, 2003	Page 19 of 19

malfunction and to recommend actions to prevent recurrences. The investigation will not be used to establish blame or for determining or assessing disciplinary actions or fiscal or legal liability.

4.4 The Director, S&MA will approve the report and ensure follow-up and closeout on all recommendations.

4.5 If an investigator disagrees with the findings, conclusions, or recommendations of a majority of the Investigating Body, his/her nonconcurrence statement will be appended to the report and become a part of the majority report.

## 5.FLOW DIAGRAM

None